

**Appln No. 09/995,483**  
**Amdt date December 11, 2007**  
**Reply to Office action of September 11, 2007**

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Please cancel claim 29, amend claims 1, 3, 8, 11, 14, 18, 20, 22 and 27 and add claim 114 as follows:

1. (Amended) A bottle cap for capping a bottle having a mouth having a rim wherein a radius extends from a center of the mouth to an outer perimeter of the rim, the cap comprising:
  - a top portion having an inner surface;
  - an annular wall extending from the top portion;
  - a plurality of concentric circular ridges formed on the top portion inner surface for registering with the rim wherein said plurality of concentric ridges intersect the radius; and
  - at least a slot formed across each of said plurality of ridges for defining a pathway across the rim when the concentric circular ridges are registered with the rim.
2. (Canceled)
3. (Amended) A bottle cap as recited in claim 1 [comprising,] wherein each a slot in each ridge is radially aligned with a slot in consecutive ridge for defining a single radial slot across said consecutive ridges.
4. (Original) A bottle cap as recited in claim 1 wherein the slot formed across one ridge is circumferentially spaced apart from a slot formed across an adjacent ridge.
5. (Original) A bottle cap as recited in claim 1 further comprising a liner fitted over the top portion inner surface, the liner having an opening formed through the liner thickness.

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6. (Original) A bottle cap as recited in claim 1 wherein the top portion is hingedly coupled to the annular wall.
7. (Original) A bottle cap as recited in claim 1 further comprising a moveable spout extending from the top portion.
8. (Twice Amended) A bottle cap for capping a bottle having a rim defining a mouth internal of the rim, the cap comprising:
  - a top portion having an inner surface;
  - an annular wall extending from the top portion; and
  - a groove formed on the inner surface of the top portion, said groove extending chordwise from a first point to a second point, wherein said first and second points are positioned so as to be outside of said rim when said cap is capping said bottle [adjacent the annular wall to a second point adjacent the annular wall].
9. (Original) A bottle cap as recited in claim 8 comprising a plurality of grooves formed on the inner surface of the top portion.
10. (Original) A bottle cap comprising:
  - a top portion having an inner surface;
  - an annular wall extending from the top portion;
  - a first set of parallel spaced apart grooves formed on the inner surface of the top portion;
  - and
  - a second set of parallel spaced apart grooves formed on the inner surface of the top portion, wherein grooves of the first set intersect grooves of the second set.
11. (Amended) A bottle cap comprising:
  - a top portion having [[an]] a substantially flat inner surface;

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an annular wall extending from the top portion, wherein said substantially flat inner surface extends to said annular wall;

a plurality of grooves formed on the substantially flat inner surface of the top portion; and

a liner fitted over the top portion inner surface, the liner having an opening formed through its thickness.

12. (Original) A bottle cap as recited in claim 8 wherein the top portion is hingedly coupled to the annular wall.

13. (Original) A bottle cap as recited in claim 8 further comprising a moveable spout extending from the top portion.

14. (Amended) A vented bottle cap system comprising:

a bottle having a neck having a rim defining a mouth and threads formed on the neck outer surface;

wherein a radius extends from a center of said mouth to an outer perimeter of said rim;

a cap having a top portion having an inner surface and an annular wall extending from the top portion, the annular wall having threads formed on its inner surface for threading onto the threads formed on the bottle neck, wherein when the cap is threaded onto the bottle neck a gas path is formed between the outer surface of the bottle neck and the inner surface of the annular wall;

a plurality of concentric circular ridges formed on the inner surface of the top portion; and

a slot formed across each of said plurality of ridges, wherein when the cap is completely threaded onto the bottle neck, the ridges sit on the bottle neck, all of said plurality of ridges intersect the radius [[rim]] and the slots define a pathway for gas generated in the bottle to escape across the bottle neck rim and through the pathway.

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15. (Original) A vented bottle cap system as recited in claim 14 wherein a slot in each ridge is radially aligned with a slot in an adjacent ridge.
16. (Original) A vented bottle cap system as recited in claim 14 wherein a slot in each ridge is circumferentially spaced apart from a slot in an adjacent ridge.
17. (Original) A vented bottle cap system as recited in claim 14 further comprising a liner fitted in the cap and having a hole through its thickness, wherein when the cap is threaded onto the bottle neck, the liner sits on the bottle neck rim and wherein gases generated in the bottle escape through the hole, through the slot and through the pathway.
18. (Fourth Amendment) A vented bottle cap system comprising:
  - a bottle having a neck having a rim defining a mouth and threads formed on the neck outer surface;
  - a cap having a top portion having an inner surface and an annular wall extending from the top portion, the annular wall having threads formed on its inner surface for threading onto the threads formed on the bottle neck, wherein when the cap is threaded onto the bottle neck a gas path is formed between the outer surface of the bottle neck and the inner surface of the annular wall; and
  - a groove formed on the inner surface of the top portion extending from a first groove end to a second groove end, wherein when the cap is threaded onto the bottle neck, the groove first end is external of the rim and the groove second end is external [extends [outwardly] beyond two locations external] of the rim of the bottle neck providing a pathway for gas generated in the bottle to escape across the bottle neck mouth and through the gas path.
19. (Original) A vented bottle cap system as recited in claim 18 comprising a plurality of grooves formed on the inner surface of the top portion, wherein each groove extends radially beyond the rim of the bottle neck when the cap is threaded onto the bottle neck.

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20. (Amended) A vented bottle cap system as recited in claim ~~[[19]]~~ 18 comprising a first set of parallel grooves and a second set of parallel grooves formed on an inner surface of the top portion, wherein grooves of the first set intersect grooves of the second set.

21. (Original) A vented bottle cap system as recited in claim 18 further comprising a liner fitted in the cap and having a hole through its thickness, wherein when the cap is threaded onto the bottle neck, the liner sits on the bottle neck rim and wherein gases generated in the bottle escape through the hole, through the groove and through the gas path.

22. (Third Amendment) A method for venting gases generated in a bottle having a rim defining a mouth and containing a liquid, wherein a radius extends from a center of said mouth to an outer perimeter of said rim, the method comprising [the steps of]:

providing a cap having a top portion, a plurality of circular ridges formed on an inner surface of the top portion and a slot formed across each of said plurality of ridges; and

torquing the cap on the bottle causing the plurality of ridges to [sit on] engage and press against an upper surface the rim~~[[,]]~~ wherein said plurality of concentric ridges intersect the radius, and wherein the plurality of slots provide a pathway for the [venting] venting of gases.

23. (Amended) A method as recited in claim 22 further comprising [the steps of]:

venting gas in the bottle through at least one of the slots

forcing liquid in the slot after venting; and

solidifying the liquid to block the pathway through at least one of said slots.

24. (Twice Amended) A method for venting gases generated in a bottle having a rim defining a mouth internal of the rim and containing a liquid, the method comprising [the steps]:

providing a cap having a top portion and a groove formed on an inner surface of the top portion, said groove extending between a first end and a second end; and

torquing the cap on the bottle causing the inner surface of the top portion to sit on the rim, wherein the groove first end [extends outwardly] is located external of the rim, and wherein

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the groove second end is located external [beyond two locations] of the rim and wherein the groove provides a pathway for the venting of gases.

25. (Twice Amended) A method as recited in claim 24 further comprising [the steps of]:

venting gas in the bottle through the groove;  
forcing liquid in the groove after venting; and  
solidifying the liquid to block the pathway through the groove.

26. (Third Amendment) A vented bottle cap system comprising:

a bottle having a neck having a rim defining a mouth and threads formed on the neck outer surface;

a cap having a top portion having an inner surface and an annular wall extending from the top portion, the annular wall having threads formed on its inner surface for threading onto the threads formed on the bottle neck, wherein when the cap is threaded onto the bottle neck a gas path is formed between the outer surface of the bottle neck and the inner surface of the annular wall;

a disc made of a material being at least [semi hard] semi-hard fitted over the top portion inner surface, the disc having a first surface opposite a second surface, wherein the first surface faces the top portion inner surface;

a circular ridge formed on the second surface of the disc; and

a plurality of slots formed across the ridge, wherein when the cap is completely threaded onto the bottle neck, the ridge sits on the bottle neck rim and the [slot forms a pathway] slots form pathways for any gas generated in the bottle to escape across the bottle neck rim [and through the gas path].

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27. (Twice Amended) A vented bottle cap system [as recited in claim 26] comprising:  
a bottle having a neck having a rim defining a mouth and threads formed on the neck outer surface, wherein a radius extends from a center of the mouth to an outer perimeter of the rim;

a cap having a top portion having an inner surface and an annular wall extending from the top portion, the annular wall having threads formed on its inner surface for threading onto the threads formed on the bottle neck, wherein when the cap is threaded onto the bottle neck a gas path is formed between the outer surface of the bottle neck and the inner surface of the annular wall;

a disc made of a material being at least semi-hard fitted over the top portion inner surface, the disc having a first surface opposite a second surface, wherein the first surface faces the top portion inner surface; and

a plurality of concentric ridges formed in the second surface of the disc, wherein when the cap is completely threaded onto the bottle neck, the plurality of ridges contact the bottle neck rim and said plurality of ridges intersect the radius; and

at least a slot in each ridge.

28. (Original) A vented bottle cap system as recited in claim 27 wherein at least a slot in each ridge is radially aligned with a slot in an adjacent ridge.

Cancel claim 29.

30. (Amended) A vented bottle cap system as recited in claim ~~[[26]]~~ 27 wherein the disc is made from plastic.

31. (Amended) A vented bottle cap system comprising:  
a bottle having a neck having a rim defining a mouth and having threads formed on the bottle neck outer surface;

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a cap having a top portion having an inner surface and an annular wall extending from the top portion, the annular wall having threads formed on its inner surface for threading onto the threads formed on the bottle neck outer surface, wherein when the cap is threaded onto the bottle neck a gas path is formed between the outer surface of the bottle neck and the inner surface of the annular wall;

a disc made of a material being at least [semi hard] semi-hard fitted over the top portion inner surface, the disc having a first surface opposite a second surface, wherein the first surface faces the top portion inner surface; and

a first set of parallel grooves and a second set of parallel grooves formed on the second surface of the disc, wherein grooves of the first set intersect grooves of the second set,

wherein when the cap is threaded onto the bottle neck, the grooves extend radially beyond the rim of the bottle neck providing pathways for gas generated in the bottle to escape across the bottle neck mouth.

32. (Amended) A vented bottle cap system comprising:

a bottle having a neck having a rim defining a mouth and threads formed on the neck outer surface;

a cap having a top portion having an inner surface and an annular wall extending from the top portion, the annular wall having threads formed on its inner surface for threading onto the threads formed on the bottle neck outer surface, wherein when the cap is threaded onto the bottle neck a gas path is formed between the outer surface of the bottle neck and the inner surface of the annular wall;

a disc made from a material being at least [semi hard] semi-hard fitted over the top portion inner surface, the disc having a circumferential edge and a first surface opposite a second surface, wherein the first surface faces the top portion inner surface;

a gap between the annular wall and the circumferential edge;

an opening formed through the thickness of the disc, the opening located within the bottle mouth when the cap is threaded onto the bottle neck;



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a circular ridge formed on the first surface of the disc; and

a slot formed across the ridge, wherein when the cap is threaded onto the bottle neck, the ridge is located over the bottle neck rim and the opening and slot form a pathway for gas generated in the bottle to escape across the bottle neck and through the gas path.

33. (Original) A bottle cap liner disc for use with a cap for capping a bottle having a rim defining a bottle mouth and having an inner and an outer diameter, the disc allowing for the venting of gases generated in a bottle when the cap is threaded on the bottle, the disc comprising:

a first surface opposite a second surface and a thickness therebetween;

an opening formed through the thickness;

a circular ridge formed on the first surface of the disc; and

a slot formed across the ridge.

34. (Original) A bottle cap liner disc for use with a cap for capping a bottle having a rim defining a bottle mouth and having an inner and an outer diameter, the disc allowing for the venting of gases generated in a bottle when the cap is threaded on the bottle, the disc comprising:

a first surface opposite a second surface; and

a plurality of concentric circular ridges formed on the first surface of the disc; and

a slot formed across each of said plurality of ridges.

35. (Amended) An insert having an annular section for use with a cap for capping a bottle having a rim defining a bottle mouth and having an inner and an outer diameter, the insert allowing for the venting of gases generated in a bottle when the cap is [threaded on] capping the bottle, [the disc defining a central] the annular section forming an opening and comprising:

a first surface opposite a second surface;

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a circular ridge formed on the first surface of the annular section; and

a slot formed across the ridge.

36. (Original) An insert as recited in claim 35 comprising a plurality of concentric circular ridges and a slot formed across each of said plurality of ridges.

37. (Amended) A vented bottle cap system comprising:

a bottle having a neck having a rim defining a mouth [and threads formed on the neck outer surface];

a cap having a top portion having an inner surface and an annular wall extending from the top portion, [the annular wall having threads formed on its inner surface for threading onto the threads formed on the bottle neck,] wherein when the cap is [threaded onto] capping the bottle neck a gas path is formed between the outer surface of the bottle neck and the inner surface of the annular wall;

a venting member having an annular section [having a central] defining an opening and made of a material being at least [semi hard] semi-hard, the annular section having a first surface opposite a second surface and sandwiched between the cap inner surface and the rim wherein the first surface faces the cap top portion inner surface;

a circular ridge formed on the first surface of the annular section; and

a slot formed across the ridge, wherein when the cap is [threaded onto] capping the bottle neck, the slot forms a pathway for gas generated in the bottle to escape through the opening and across the bottle neck rim and through the gas path.

38. (Original) A vented bottle cap system as recited in claim 37 comprising:

a plurality of concentric ridges formed in the first surface of the annular section; and  
at least a slot in each ridge.

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39. (Original) A vented bottle cap system as recited in claim 38 wherein at least a slot in each ridge is radially aligned with a slot in an adjacent ridge.

40. (Twice Amended) A vented bottle cap system as recited in claim 37 [therein] wherein the [insert] venting member is made from plastic.

41. (New) An insert as recited in claim 35 wherein the insert opening is located centrally through the insert.

42. (New) An insert as recited in claim 37 wherein the venting member opening is defined centrally in the venting member.

43-56. (Cancelled)

57. (New) A bottle cap as recited in claim 8 wherein the groove is linear.

58-113. (Cancelled).

114. (New) A vented bottle cap system comprising:

a bottle having a neck having a rim defining a mouth and threads formed on the neck outer surface;

a cap having a top portion having an inner surface and an annular wall extending from the top portion, the annular wall having threads formed on its inner surface for threading onto the threads formed on the bottle neck, wherein when the cap is threaded onto the bottle neck a gas path is formed between the outer surface of the bottle neck and the inner surface of the annular wall;

a groove formed on the inner surface of the top portion wherein when the cap is threaded onto the bottle neck, the groove extends outwardly beyond two locations of the rim of the bottle neck; and

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a liner fitted in the cap and having a hole through its thickness, wherein when the cap is threaded onto the bottle neck, the liner sits on the bottle neck rim and wherein gases generated in the bottle escape through the hole, through the groove and through the gas path.